DAEWOO

MODELO: DLA-32H1

Chassis： MT5380

Product Type: Televisión de 32” LCD

Ver 1.0

Hisense Electric Co.，Ltd.

Apr. 2008

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Service Manual

1. Precautions and notices

BEFORE SERVICING THE LCD TV, READ THE SAFETY PRECAUTIONS IN THIS MANUAL.

WHEN REPLACEMENT PARTS ARE REQUIRED, BE SURE TO USE REPLACEMENT PARTS SPECIFIED BY THE MANUFACTURER.

Proper service and repair is important to the safe, reliable operation of all Hisense Electric Co., Ltd Equipment. The service procedures recommended by Hisense and described in this Service Guide are effective methods of performing service operations. Some of these service operations require the use of tools specially designed for the purpose. The special tools should be used when and as recommended.

It is important to note that this manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It is also important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Hisense could not possibly know, evaluate and advise the service

trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Hisense has not undertaken any such broad evaluation. Accordingly, a serviceman that uses a service procedure or tools, which are not recommended by Hisense, must first satisfy himself thoroughly that neither his safety nor the safe of the equipment will be jeopardized by the service method selected.

Hereafter throughout this manual, Hisense Electric Co., Ltd will be referred to as Hisense.

1.1 Warning

1.1.1

Critical components having special safety characteristics are identified with a ⚠ by the Ref. No. in the parts list. Use of substitute replacement parts, which do not have the same specified safety characteristics, may create shock, fire, or other hazards.

Under no circumstances should the original design be modified or altered without written permission from Hisense. Hisense assumes no liability, express or implied, arising out of any unauthorized modification of design. Serviceman assumes all liability.

DANGERCAUTION CAUTION

TO ENSURE THE CONTINUED RELIABILITY OF THIS PRODUCT, USE ONLY ORIGINAL MANUFACTURER'S REPLACEMENT PARTS, WHICH ARE LISTED WITH THEIR PART NUMBERS IN THE PARTS LIST SECTION OF THIS SERVICE GUIDE.

1.1.2.

All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. When repairing, make sure that you are connected with the same potential as the mass of the set by a wristband with resistance. Keep components and tools also at this same potential.

1. Never replace modules or other components while the unit is switched on.

2. When making settings, use plastic rather than metal tools. This will prevent any short circuits and the danger of a circuit becoming unstable.

1.1.3

To prevent electrical shock, do not use this polarized ac plug with an extension cord, receptacle, or the outlet unless the blades can be fully inserted to prevent blade exposure. To prevent electrical shock, match wide blade or plug to wide slot, fully insert.

1.1.4

When replacement parts are required, be sure to use replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

1.1.5

Safety regulations require that after a repair the set must be returned in its original condition. In particular attention should be paid to the following points.

-Note: The wire trees should be routed correctly and fixed with the mounted cable

clamps.

-The insulation of the mains lead should be checked for external damage.

1.1.6

(1) Do not touch Signal and Power Connector while this product operates. Do not touch EMI ground part and Heat Sink of Film Filter.

(2) Do not supply a voltage higher than that specified to this product. This may damage the product and may cause a fire.

(3) Do not use this product in locations where the humidity is extremely high, where it may be splashed with water, or where flammable materials surround it. Do not install or use the product in a location that does no satisfy the specified environmental conditions. This may damage the product and may cause a fire.

(4) If a foreign substance (such as water, metal, or liquid) gets inside the panel module, immediately turn off the power. Continuing to use the product may cause fire or electric shock.

(5) If the product emits smoke, and abnormal smell, or makes an abnormal sound, immediately turn off the power. Continuing to use the product, it may cause fire or electric shock.

(6) Do not disconnect or connect the connector while power to the product is on. It takes some time for the voltage to drop to a sufficiently low level after the power has been turned off. Confirm that the voltage has dropped to a safe level before disconnecting or connecting the connector.

(7) Do not pull out or insert the power cable from/to an outlet with wet hands. It may cause electric shock.

(8) Do not damage or modify the power cable. It may cause fire or electric shock.

(9) If the power cable is damaged, or if the connector is loose, do not use the product: otherwise, this can lead to fire or electric shock.

(10) If the power connector or the connector of the power cable becomes dirty or dusty, wipe it with a dry cloth. Otherwise, this can lead to fire.

(11) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

1.2 Notes

Notes on Safe Handling of the LCD panel and during service

The work procedures shown with the Note indication are important for ensuring the safety of the product and the servicing work. Be sure to follow these instructions.

• Before starting the work, secure a sufficient working space.

• At all times other than when adjusting and checking the product, be sure to turn OFF the POWER Button and disconnect the power cable from the power source of the TV during servicing.

• To prevent electric shock and breakage of PC board, start the servicing work at least 30

seconds after the main power has been turned off. Especially when installing and removing the power board, start servicing at least 2 minutes after the main power has been turned off.

• While the main power is on, do not touch any parts or circuits other than the ones specified. If any connection other than the one specified is made between the measuring equipment and the high voltage power supply block, it can result in electric shock or activation of the leakage-detection circuit breaker.

• When installing the LCD module in, and removing it from the packing carton, be sure to have at least two persons perform the work.

• When the surface of the panel comes into contact with the cushioning materials, be sure to confirm that there is no foreign matter on top of the cushioning materials before the surface of the panel comes into contact with the cushioning materials. Failure to observe this precaution may result in, the surface of the panel being scratched by foreign matter.

• When handling the circuit board, be sure to remove static electricity from your body before handling the circuit board.

• Be sure to handle the circuit board by holding the large parts as the heat sink or transformer. Failure to observe this precaution may result in the occurrence of an abnormality in the soldered areas.

• Do not stack the circuit boards. Failure to observe this precaution may result in problems resulting from scratches on the parts, the deformation of parts, and

short-circuits due to residual electric charge.

• Routing of the wires and fixing them in position must be done in accordance with the original routing and fixing configuration when servicing is completed. All the wires are routed far away from the areas that become hot (such as the heat sink). These wires are fixed in position with the wire clamps so that the wires do not move, thereby ensuring that they are not damaged and their materials do not deteriorate over long periods of time. Therefore, route the cables and fix the cables to the original position and states using the wire clamps.

• Perform a safety check when servicing is completed. Verify that the peripherals of the serviced points have not undergone any deterioration during servicing. Also verify that the screws, parts and cables removed for servicing purposes have all been returned to their proper locations in accordance with the original setup.

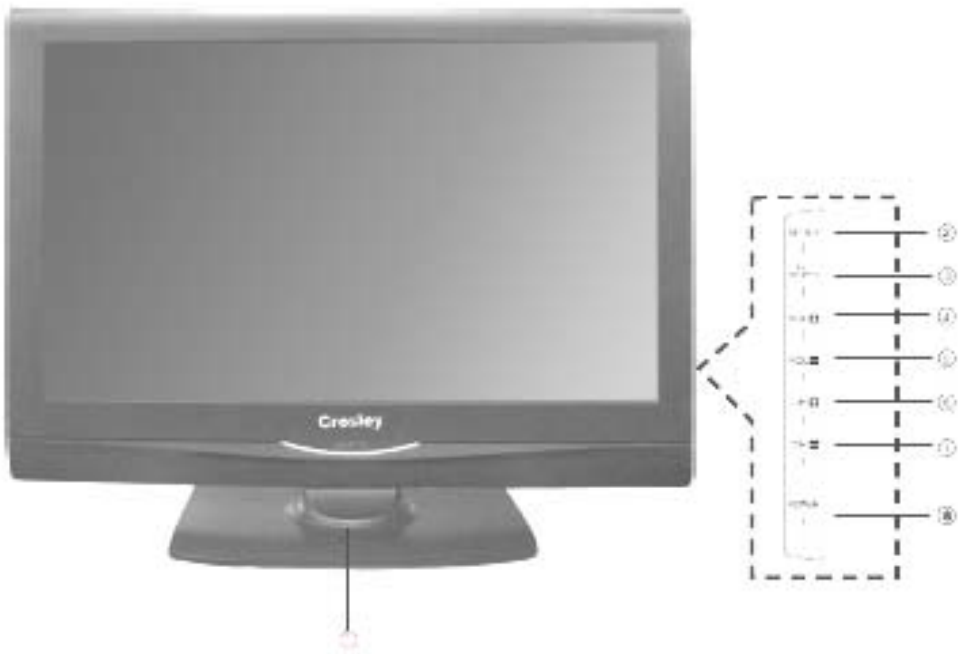
The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltage within the products enclosure that may be of sufficient magnitude to constitute a risk of electric shock.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the set.

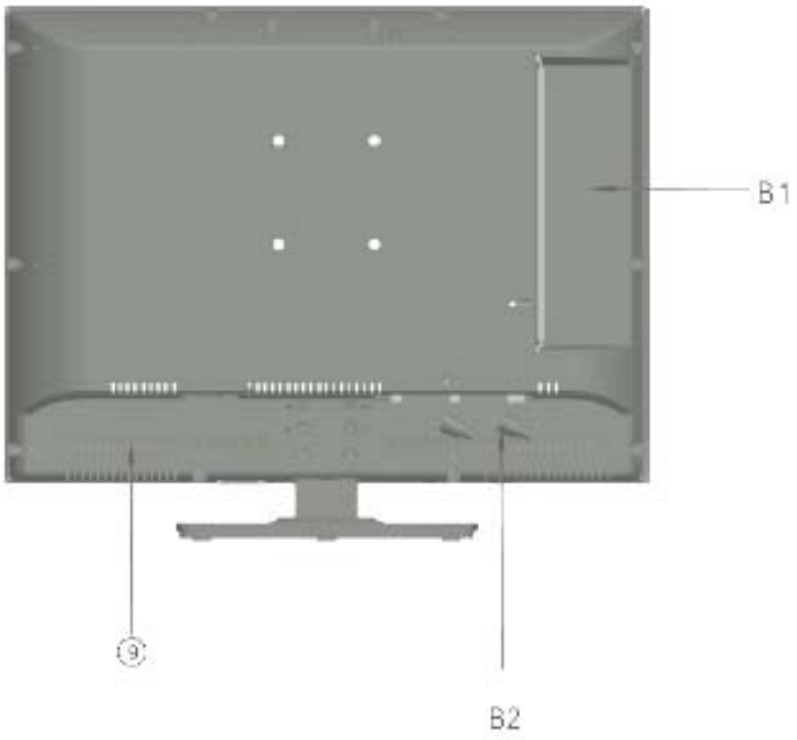
2. Product Function Specifications

2.1 Product Function

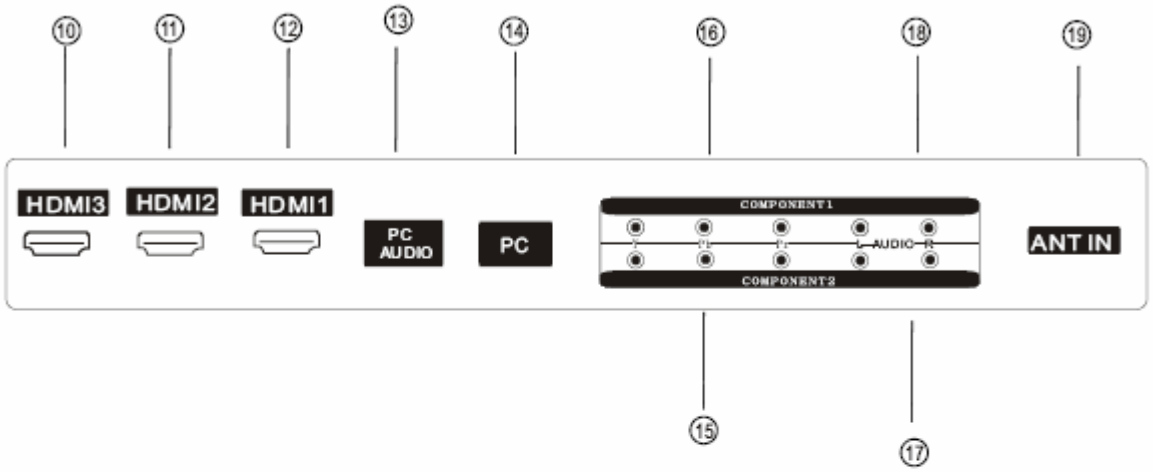
Front Cabinet



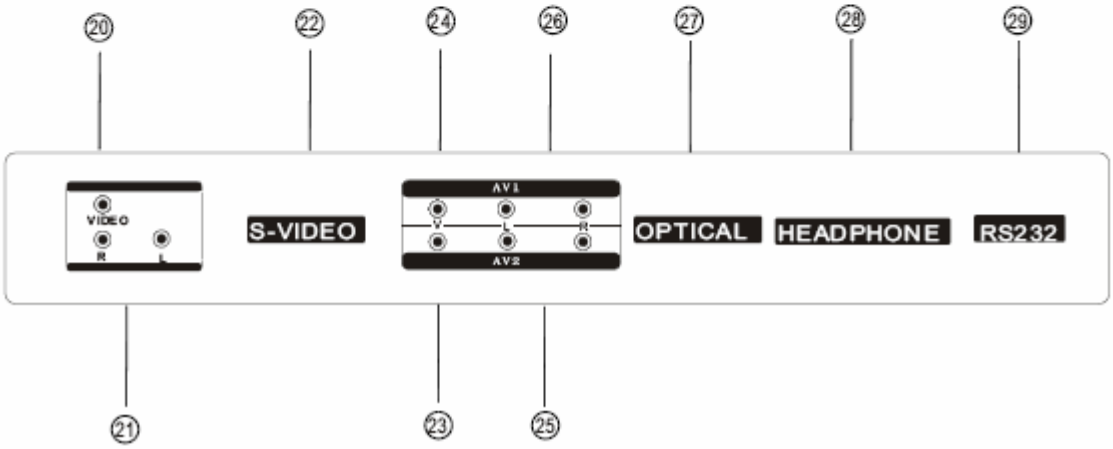
Back Cabinet


B1
9
B2

B1



B2



① Remote sensing window
② Menu button
③ Source select
④ Volume up/ cursor right
⑤ Volume down/ cursor left
⑥ Channel up /cursor up
⑦ Channel down / cursor down
⑧ Power button (standby)
⑨ AC power socket
⑩ HDMI3 input
⑪ HDMI2 input
⑫ HDMI1 input
⑬ VGA Audio input
⑭ VGA input
⑮ YPbPr input 2
⑯ YPbPr input 1
⑰ Audio in2(for YPbPr2)
⑱ Audio in1(for YPbPr1)
⑲ RF input
⑳ Video output
㉑ Audio output
㉒ S-Video input
㉓ Video input2
㉔ Video input1
㉕ Audio input4(for Video2)
㉖ Audio input3 (for S-Videoand Video1)
㉗ Optical output
㉘ Headphone output
㉙ R232(for software updating)

2.2 Specifications

Model	DLA—32H1
Diagonal display size	32 inches
Television system	American TV standard ATSC / NTSC system
Audio multiplex	BTSC system
Channel coverage	VHF: 2~13 UHF: 14~69 CATV:1~125 Digital Terrestrial Broadcast (8VSB): 2~69 Digital cable (64/256 QAM): 1~135
PC mode	640x480/60Hz,800x600/60Hz,1024x768/60Hz
YPbPr/YCbCr mode	480I/60Hz,480P/60Hz,720P/60Hz,1080I/60Hz
Resolution	1366x768
Power source	AC 120 V , 60 Hz
Power consumption	150W
Audio power	5W+5W
Conection Interface	RF Input: Cable/Antenna 1 VIDEO Input: VIDEO 2 S-VIDEO 1 COMPONENT 2 HDMI 3 GRAPHIC Input: Analog RGB 15pin 1 AUDIO Input: AV AUDIO 2 COMPONENT AUDIO 2 PC AUDIO Input 1 VIDEO Output: VIDEO 1 AUDIO Output: AV AUDIO 1 Digital Audio Output 1 Earphone Output 1
Dimensions	Length: 35.5 inches Width: 30.1 inches Height: 7.6 inches
Weight	33.0 lbs
Supplied accessories	Remote control, AC cord, Batteries, User Manual,Warranty Card

NOTE: Specifications and design are subject to possible modifications without notice due to improvements。

3. LCD Panel Spec

3.1 General Description

AX080D002F is a 31.5” TFT Liquid Crystal Display module with 16-EEFL Backlight unit and a single LVDS interface.

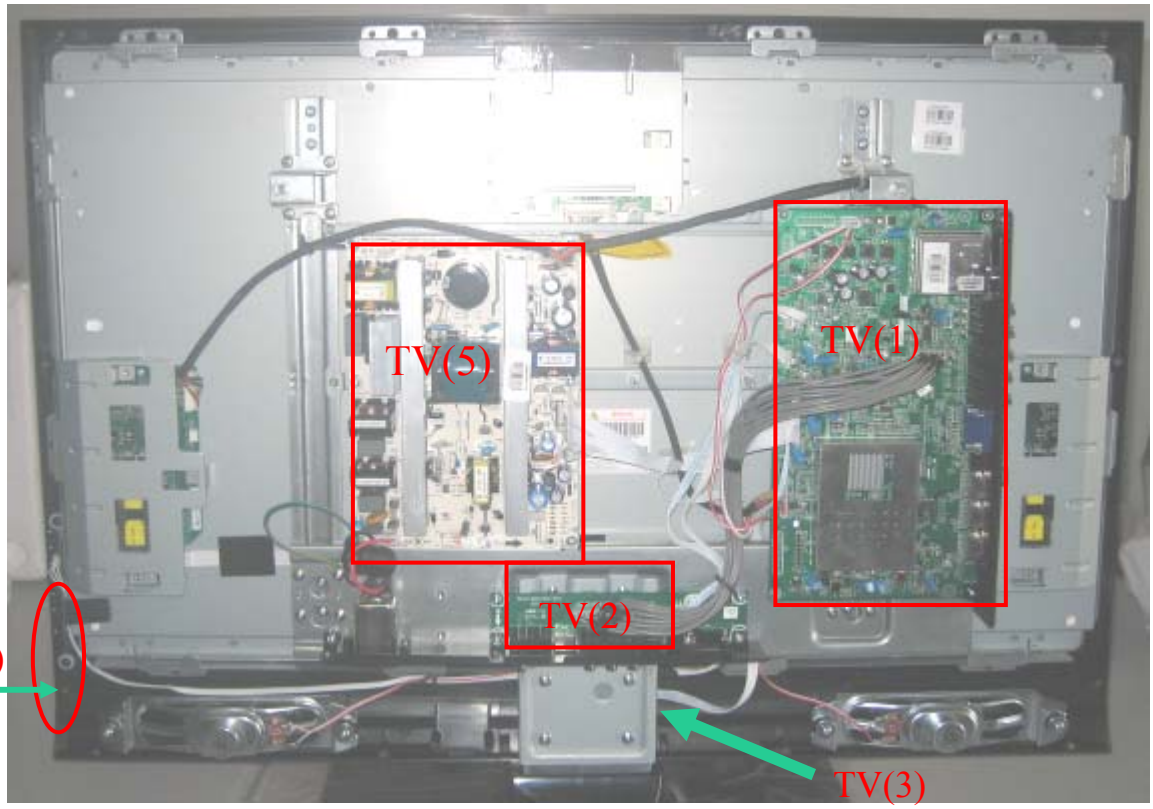
This module supports 1366 x 768 WXGA format and can display 16.7M colors (8-bits colors).

3.2 General Features

Effective Display Area	: (H)697.685×(V)392.256	(mm)
Number of Pixels	: (H)1,366×(V)768	(pixels)
Pixel Pitch	: (H)0.51075×(V)0.51075	(mm)
Color Pixel Arrangement	: R+G+B Vertical Stripe	
Display Mode	: Transmissive Mode Normally Black Mode	
Top Polarizer Type	: Anti-Glare	
Number of Colors	: 16,777,216	(colors)
Viewing Angle Range	: Super Wide Version (Horizontal & Vertical : 170° , CR≧10)	
Input Signal	: 1-channel LVDS (LVDS:Low Voltage Differential Signaling)	
Back Light	: 16 pcs. of EEFL	
External Dimensions	: (H)760.0 x (V)450.0 x (t)49.0 max	(mm)

4. Chassis Layout and Overall Wiring Diagrams

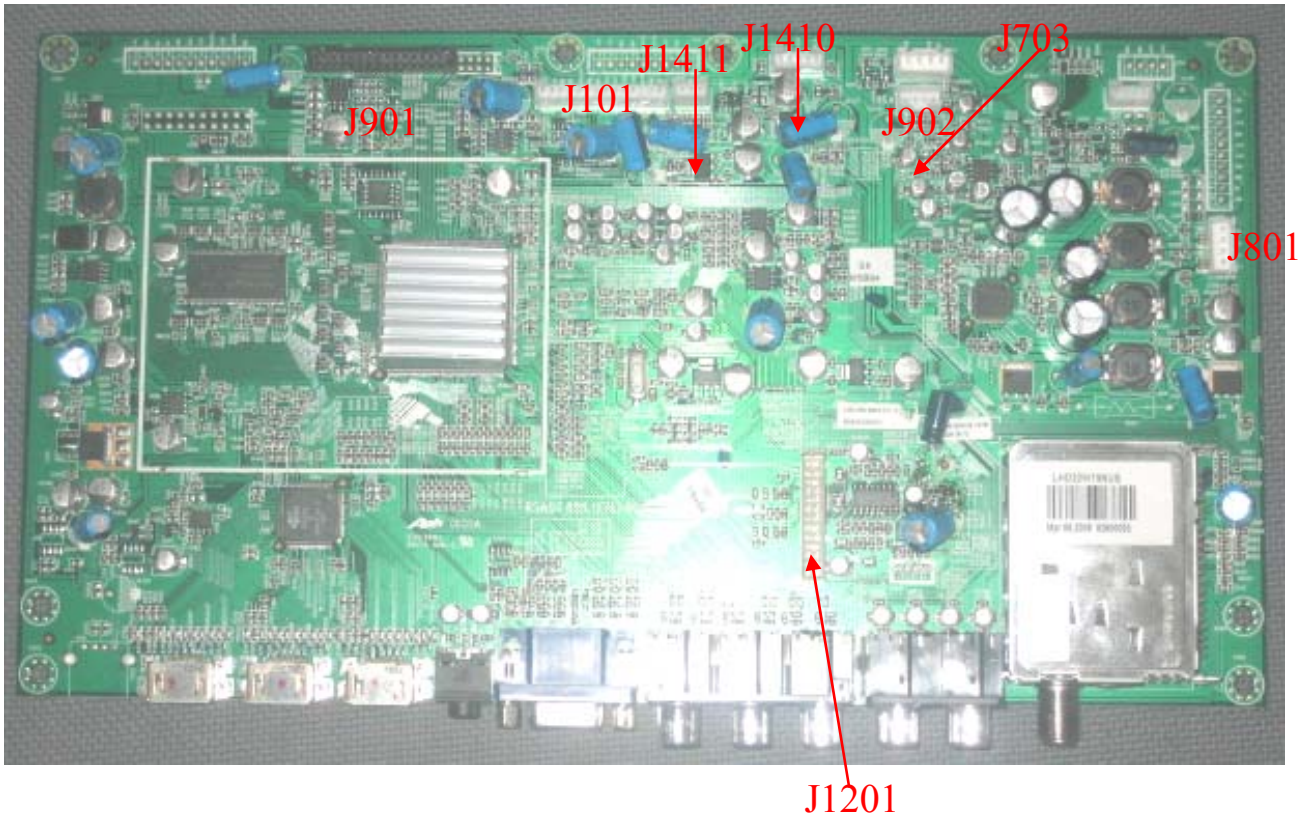
4.1 Boards and Chassis Layout



No	Description	Part No	Type/Model	PCB/ Model
TV(1)	Main BD	116468	RSAG2.908.1230-4	RSAG7.820.1276
TV(2)	In/Out connector board	116434	RSAG2.908.1291	5RSAG7.820.1263
TV(3)	LED / IR Board	114175	RSAG2.908.1169	40RSAG7.820.1213
TV(4)	Key Board	114174	RSAG2.908.1168	20RSAG7.820.1214
TV(5)	Power Board	114922	RSAG2.908.916-27\ROH	E/RSAG7.820.848A

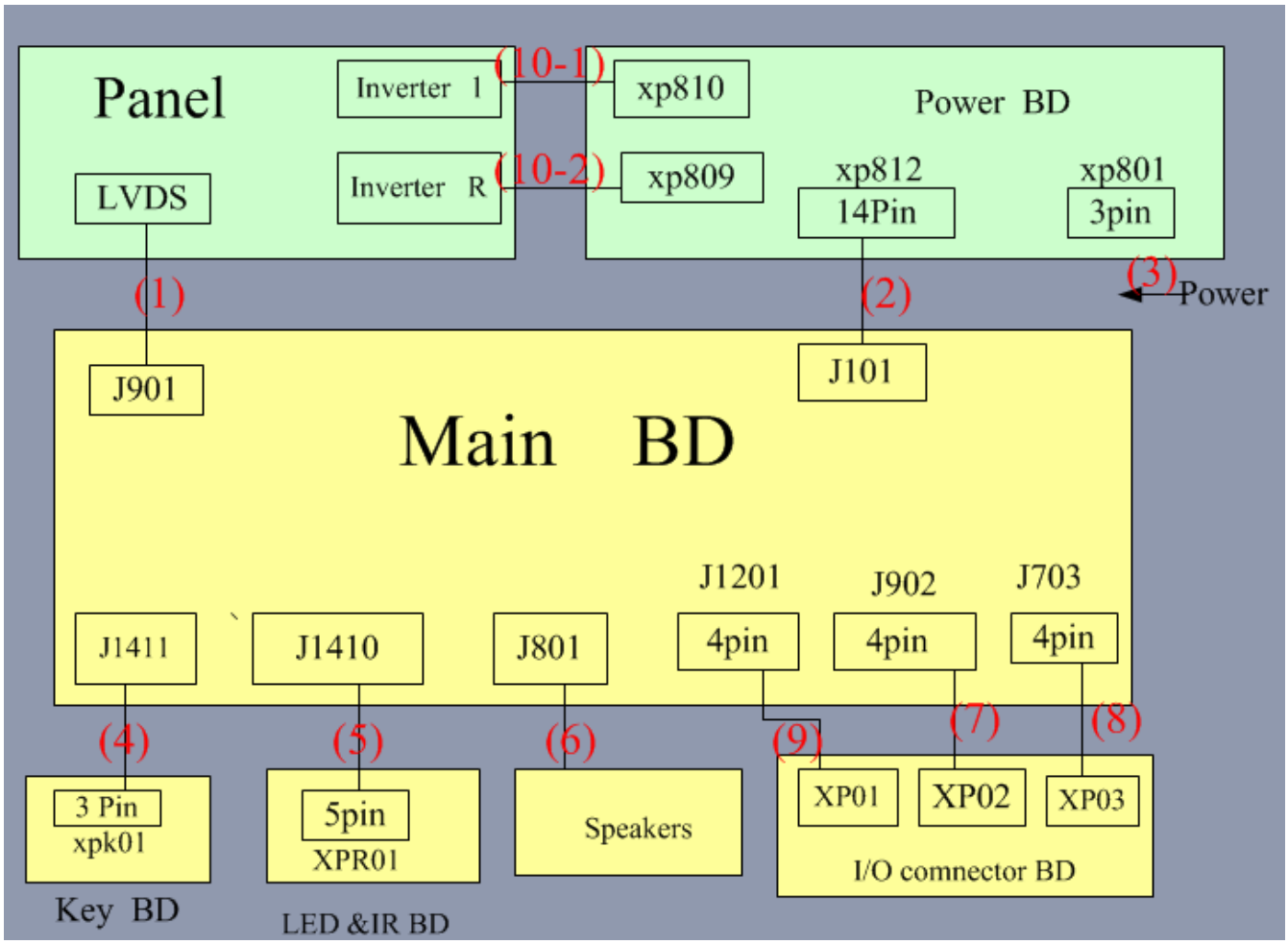
4.2 Connectors

Main Board



Location No.	Specification	Description
J901	Jack/FF-HX19-10\ROH	LVDS signal between MB and panel
J101	Jack/TJC10-14A\ROH	Power from Power BD
J1411	Jack/TJC10-3A\ROH	Buttons (connect key BD and main BD)
J1410	Jack/TJC10-5A\ROH	IR, LED
J703	Jack/TJC10-4A\ROH	Serial Port connector
J902	Jack/TJC3-4A\ROH	Video/Audio signal
J1201	Jack/A2006WSO-2×13P\ROH	Headphone Audio Signal
J801	Jack/TJC3-4A\ROH	Audio signal to speakers

4.3 Wires and Cables Overall Wiring Diagram(s)



No	DESCRIPTION	SPECIPICATION	NOTE
1	LVDS signal	Connector/HX-0147\ROH	Main BD J901<-->Panel
2	+5V, +12V supply to Main BD	Connector /TJC10T-14Y-200\ROH	Main BD J101<-->Power BD XP812
3	Main Power	Connector /TJC2-3Y-300-2\ROH	Power Inlet-->Power BD XP801
4	Buttons	Connector /TJC10T-3Y-800\ROH	Main BD J1411<--> Key BD XPK01
5	LED & IR	Connector /TJC10T-5Y-500\ROH	Main BD J1410<-->IR &LED BD XPR01
6	Audio out put (R/L)	Connector /TJC3H-4Y-650-900\ROH	Main BD J801<-->Speakers
7	Headphone Audio	Connector /TJC3T-4Y-300\ROH	Main BD J902<-->I/O CON BD XP02
8	Serial data	Connector /TJC10T-4Y-350\ROH	Main BD J703<-->I/O CON BD XP03
9	Video/Audio signal	Connector /HX-2026C400\ROH	Main BD J1201<-->I/O CON BD XP01
10-1	Backlight Power	Connector /HX-3005B450\ROH	Power BD XP810<--> Panel left backlight port
10-2	Backlight Power	Connector /HX-3005B350\ROH	Power BD XP809<--> Panel right backlight port

5. Factory/Service OSD Menu and Adjustment

5.1 To enter the Factory OSD Menu

a. With factory RC (remote control)

1. Press “M” button and enter factory mode.
2. Press “Menu” button and enter factory OSD menu.
3. Press “CH+”/“CH-” button select the function menu, press “VOL+”/“VOL-” enter the selected function menu. Press “VOL+”/“VOL-” button adjust values in the menu.

b. With user’s RC

1. Power TV On
2. Press Menu button and call up User OSD Menu
3. Select Audio-> Balance
4. Enter 0->5->3 ->2 in sequence.
   Note: If necessary, re-do number keys.
5. Factory OSD appears.
6. Press Menu again and leave factory OSD.

5.2 Factory OSD Menu

5.2.1 White Balance

Note: Different source has different WB values. Before adjusting, please change to desired source.

1. Auto Color

For VGA and **Component Video sources, WB values must be adjusted.**
Before adjusting, please change to desired source and right timing and pattern.

	source	Timing	Pattern	Notes
1	**ADC VGA**	**1024*768**	**gray-3color**	**For VGA source**
2	**ADC HDTV**	**720P**	**gray-3color**	**For Component Video**

a. Select the item “Auto Color”.

b. Press VOL+ button to auto color.

c. Close the OSD menu after 5 seconds.

5.2.2 Factory Option

	Item	Default	Options	Notes
1	**MODE**	**M**	**M, U**	M-Can enter factory mode with factory RC or user RC. U-Can enter factory mode only with user's RC.

Note: MODE "M" is only used for factory production.

5.2.3 Version Info

	Item	Default	Options	Note
1	**Version**	**LHD32W19NUS_E002**		**Software version**
2	**Date**	**r.1.02_0308**		**The date of current version**

Note: Software version info of the TV, readable only.

5.2.4 Clear the EEPROM

Item	Meaning	Note
1	**Clear partly**	Clean data except WB data and Auto Color data
2	**Clear completely**	Clean all data

Note: The factory menu date varies according to different sources. Incase changing the factory data by error, you can choose to "clear the EEPROM", by which you can resume the default value.

To clear the EEPROM:

a. Select the item “Clear All”.

b. Press VOL+ button to clear the EEPROM data.

c. Close the OSD menu after 5 seconds.

d. Restart the TV.

5.3 Designer Menu

5.3.1 Video Mode

Standard :

	TV	AV	S-Video	Component	VGA	HDMI
R Gain	128	128	128	128	132	130
G Gain	126	126	126	116	124	120
B Gain	134	134	134	124	124	125

Offset :

	TV	AV	S-Video	Component	VGA	HDMI
R Offset	116	116	116	117	113	115
G Offset	118	118	118	123	122	117
B Offset	120	120	120	125	125	120

Cool :

	TV	AV	S-Video	Component	VGA	HDMI
R Gain	118	118	118	121	123	124
G Gain	119	119	119	122	123	123
B Gain	135	135	135	135	135	143

Warm :

	TV	AV	S-Video	Component	VGA	HDMI
R Gain	150	150	150	150	150	150
G Gain	120	120	120	120	120	120

B Gain	120	120	120	120	120	120

5.3.2 Video Curve:

	TV	AV	S-Video	Component	VGA	HDMI
Bright Max	570	570	550	600	650	600
Bright Min	20	0	0	0	0	0
Bright Mid	540	540	520	550	510	530
Contrast Max	550	550	550	550	550	600
Contrast Min	0	0	0	0	0	0
Contrast Mid	450	450	450	450	450	450
Saturation Max	1000	1000	1000	1000	1000	1000
Saturation Min	0	0	0	0	0	0
Saturation Mid	500	500	500	500	500	500
Hue Max	1000	1000	1000	1000	1000	1000
Hue Min	0	0	0	0	0	0
Hue Mid	471	471	471	471	471	471

5.3.3 Picture Mode

	TV	AV	S-Video	Component	VGA	HDMI
Vivid Bright	55	55	55	55	55	55
Vivid Contrast	55	55	55	55	55	55
Vivid Saturation	55	55	55	55	55	55
Std Bright	50	50	50	50	50	50
Std Contrast	50	50	50	50	50	50
Std Saturation	50	50	50	50	50	50
Movie Bright	45	45	45	45	45	45
Movie	45	45	45	45	45	45

Contrast						
Movie Saturation	**45**	**45**	**45**	**45**	**45**	**45**

5.3.4 Volume Curve ：

	Min	20	Mid	80	Max
TV	**0**	**23**	**32**	**47**	**64**
AV	**0**	**27**	**39**	**52**	**73**
S-Video	**0**	**27**	**38**	**55**	**88**
HDMI/component/VGA	**0**	**24**	**35**	**45**	**80**

Note：Set Downmix to “Lt/Rt”.

6. Software Upgrading

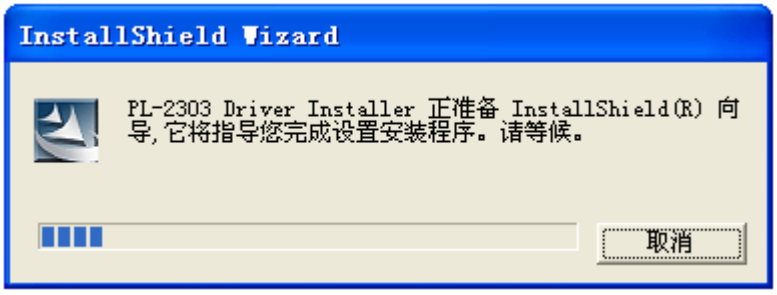
The software is upgraded by a burning toll-MtkTool, which can burn the program file *.bin to the main board of the unit.

6.1 Get ready for upgrading

6.1.1 Install the driver

Double click the icon

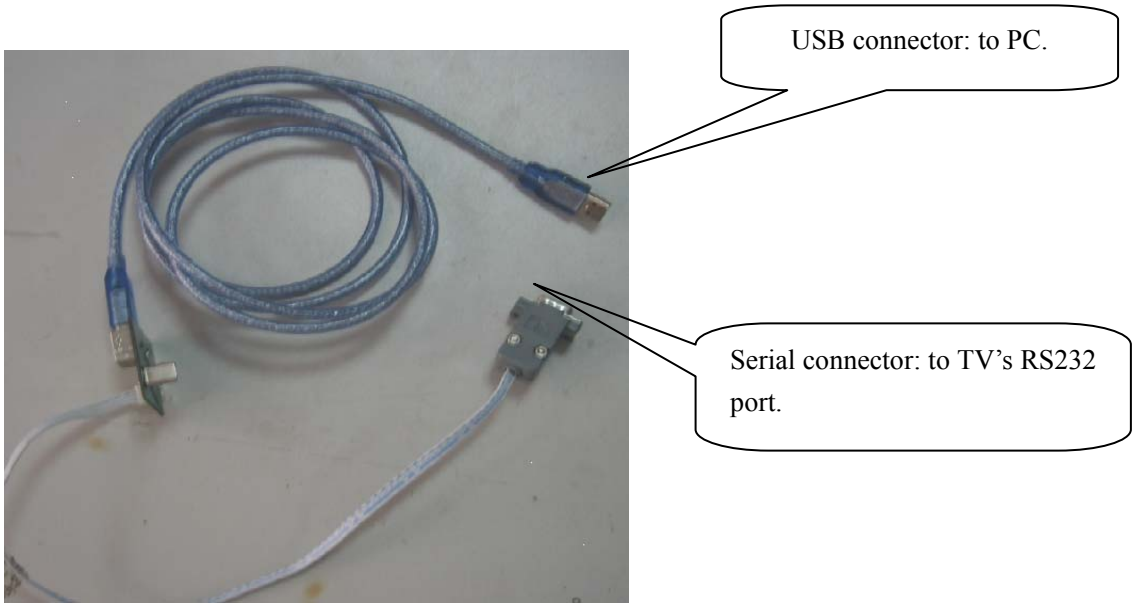
, install the driver.



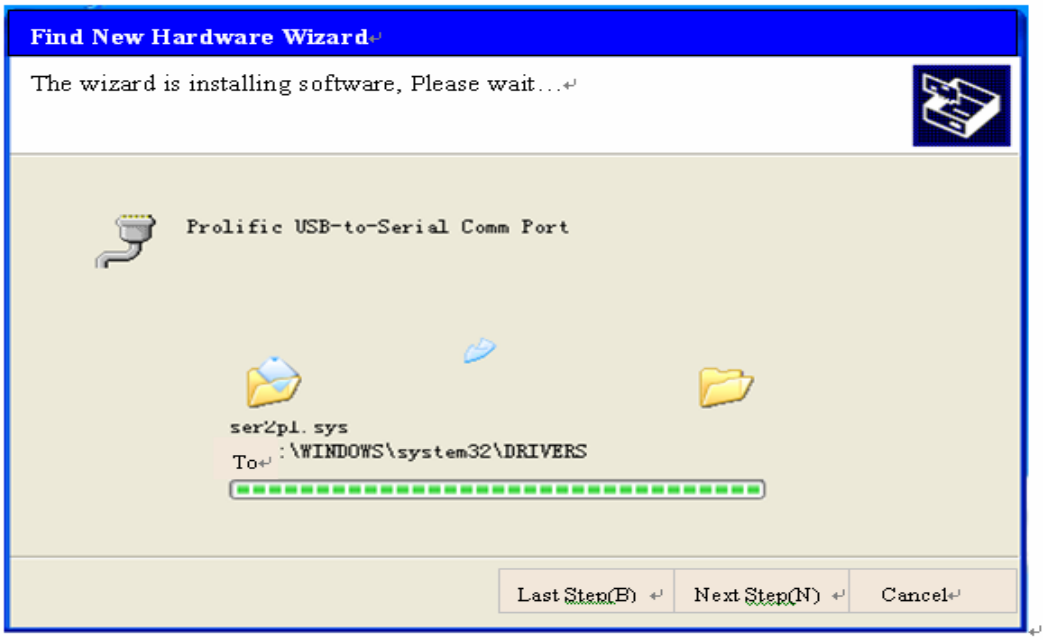
Select the default value, the driver will be installed step by step.

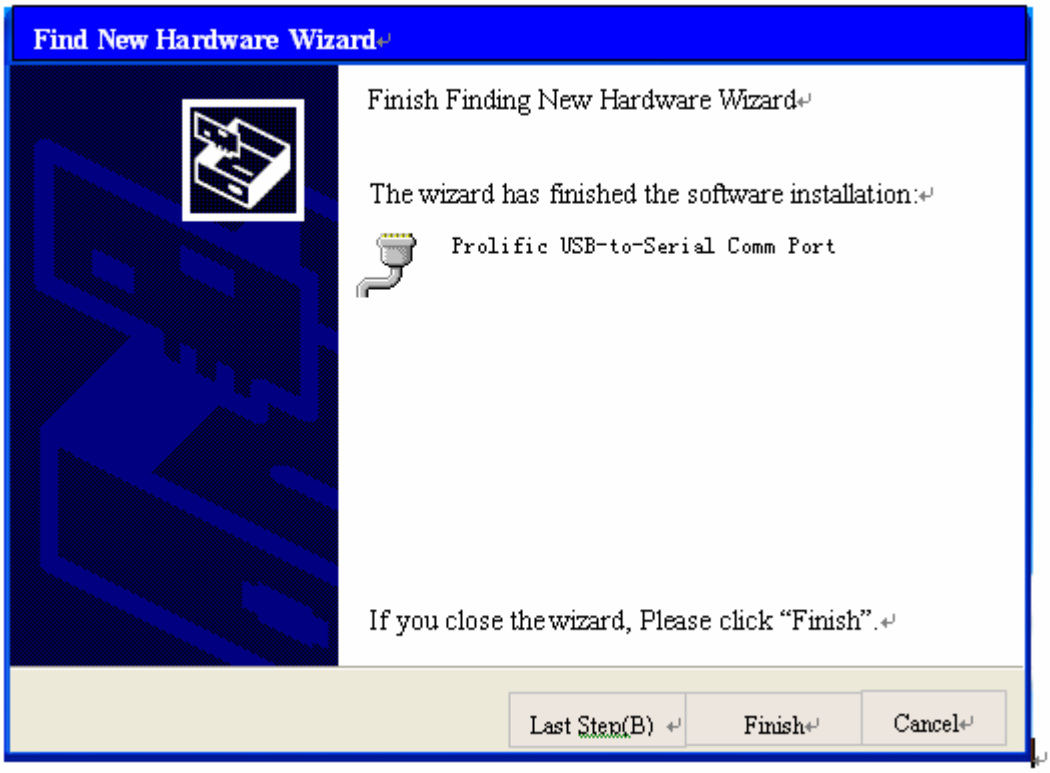
6.1.2 Hardware connecting

Connect the unit to your pc with a USB-to-serial port cable. USB port connects to your pc, and serial port to the TV's RS232 port.



For the first connecting, the pc will recognize and automatically install the USB device. The process is just like the installation of a mini disk, see the following picture.


Find New Hardware Wizard
The wizard is installing software, Please wait...
Prolific USB-to-Serial Comm Port
ser2pl.sys
To :\WINDOWS\system32\DRIVERS
Last Step(B)
Next Step(N)
Cancel

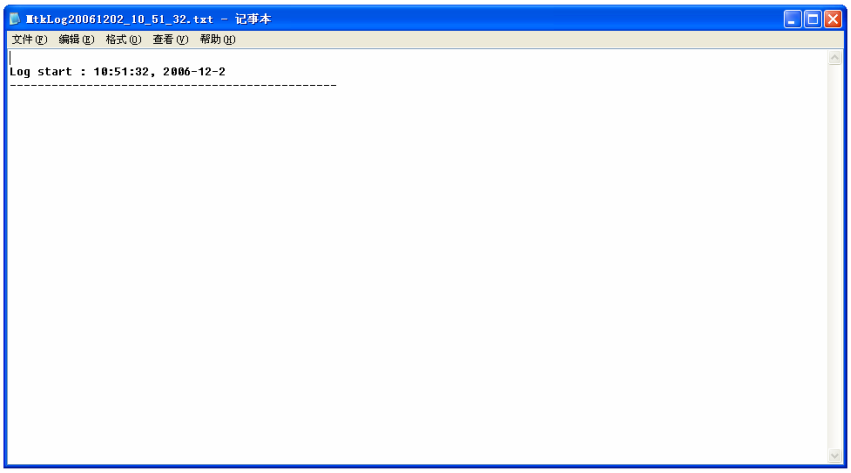

Find New Hardware Wizard
Finish Finding New Hardware Wizard
The wizard has finished the software installation:
Prolific USB-to-Serial Comm Port
If you close the wizard, Please click "Finish".
Last Step(B)
Finish
Cancel

6.2 Upgrading with the MtkTool

MTKtool is a green program needing no installation. It is saved in the folder

. There are five folders/files in this folder altergether.

The MtkTool using log is restored in the MtkLog folder. It records the running time and date whenever the tool is used. The log will be a txt file named by the date and time.



After connecting the TV with your PC, double click

icon, open the MtkTool.

If following error appears, it means the related port is not be set properly.

Ignore these errors, click “Confirm” and enter the MtkTool main interface, see the following picture.

Flash chip model (for LHD32W19NUS, it will be MT538X).

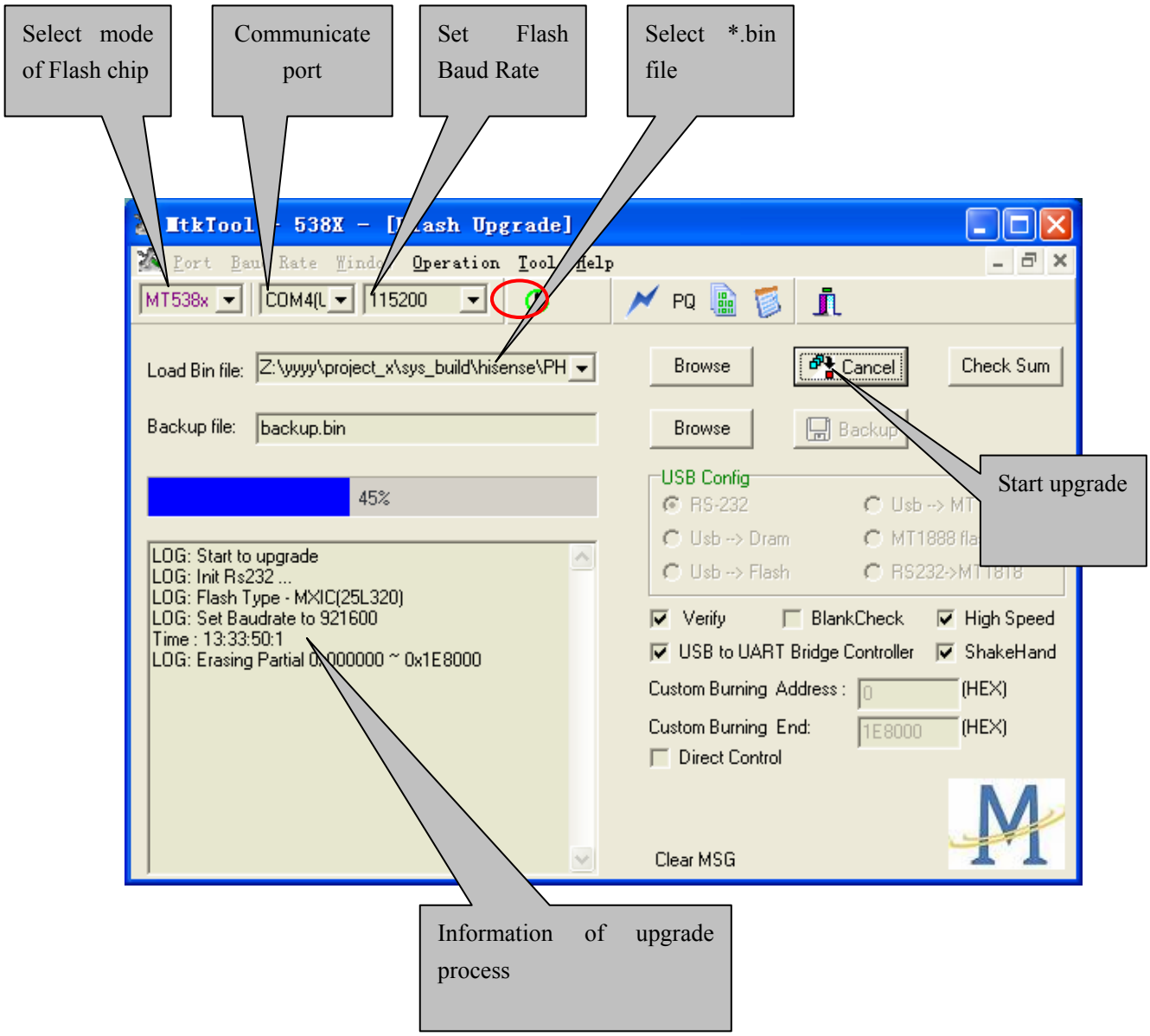
Please refer to follow steps to update the software:

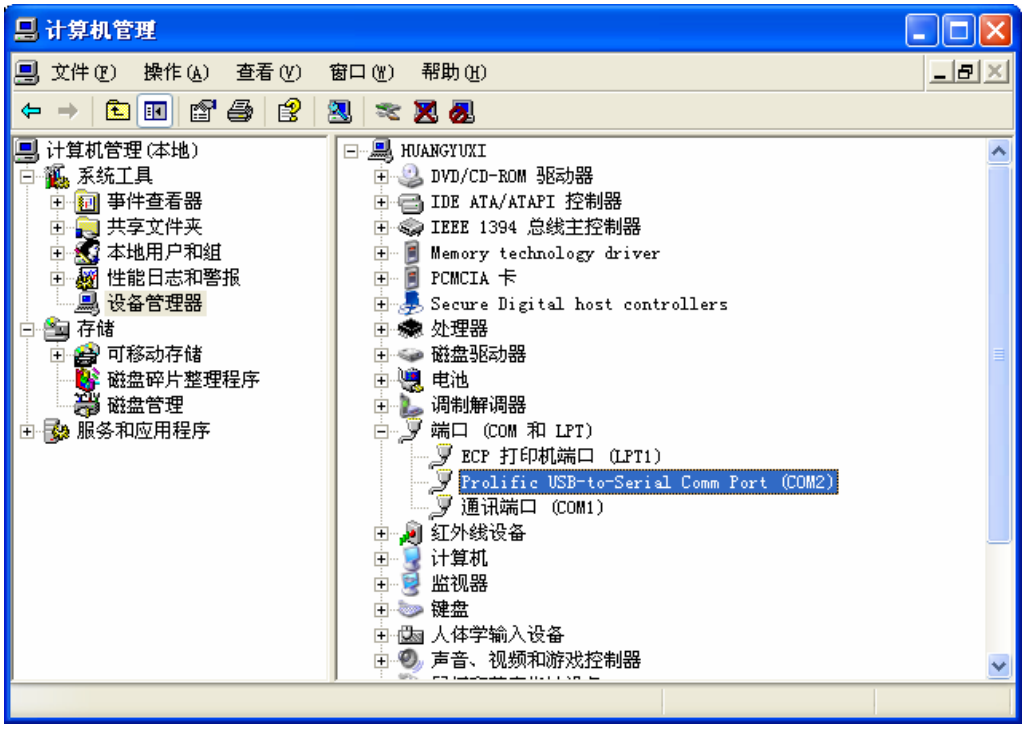
1—Select mode of Flash chip to MT538X as the below picture.

2—Refer to the next page instruction to select the communicate port.

3—Press the icon beside the baud rate and make sure it is green as the below picture.

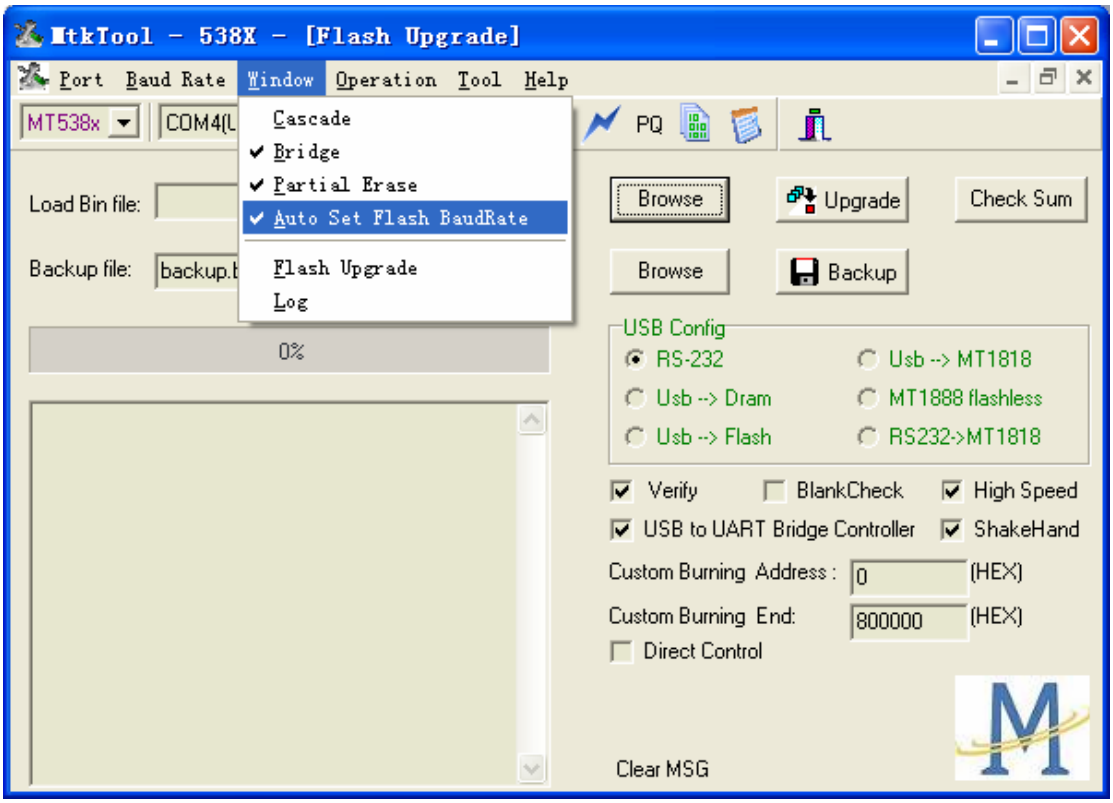
4—Set the flash baud rate to 115200 as the below picture.
5—Click the browse button to select the *.bin file that will be updated.
6—Click the “start” button to update software.





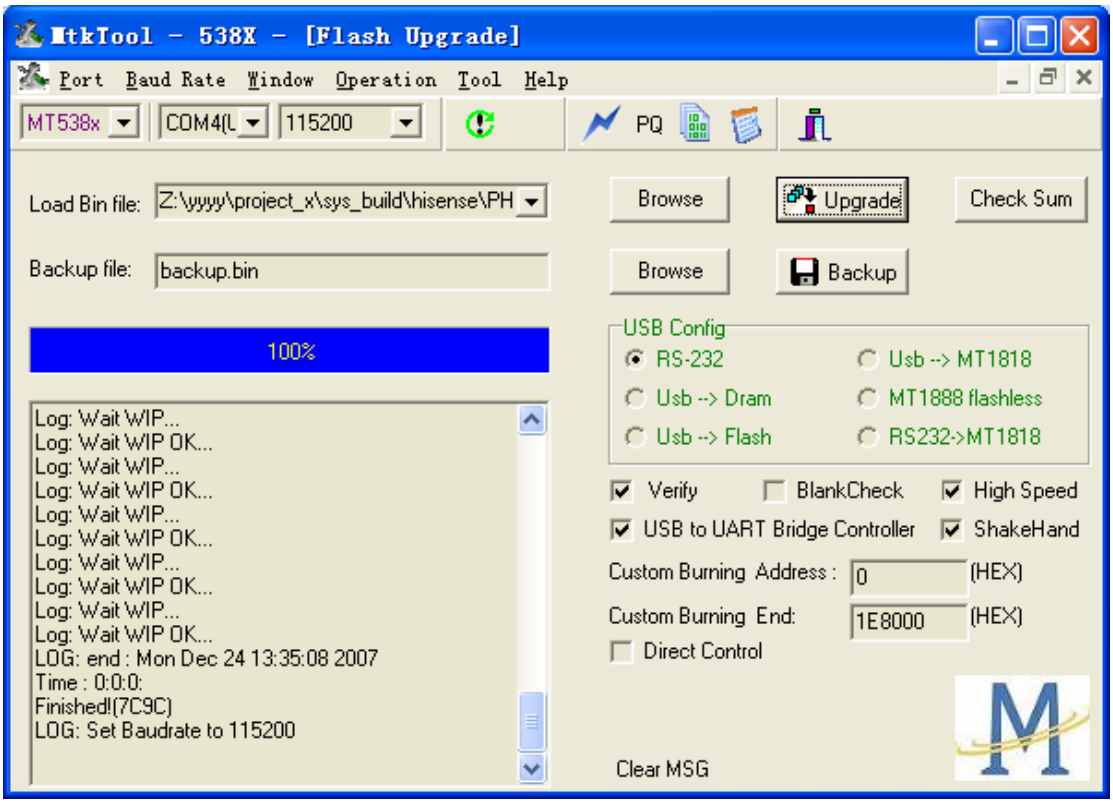
Open “Device Manager” and find which port is connected with the TV. In above picture, COM2 is connected to the TV; so, select “COM2” in the MtkTool main interface. Select the right baud rate according to chip model. For this unit(chip model is MT538X), select 115200.

Note: Where or not click the “Auto Set Flash Baud Rate” in the “window” menu depends on the chip type. If the flash chip does not support high speed transport, do not select this option; otherwise, reserve the selected mood.



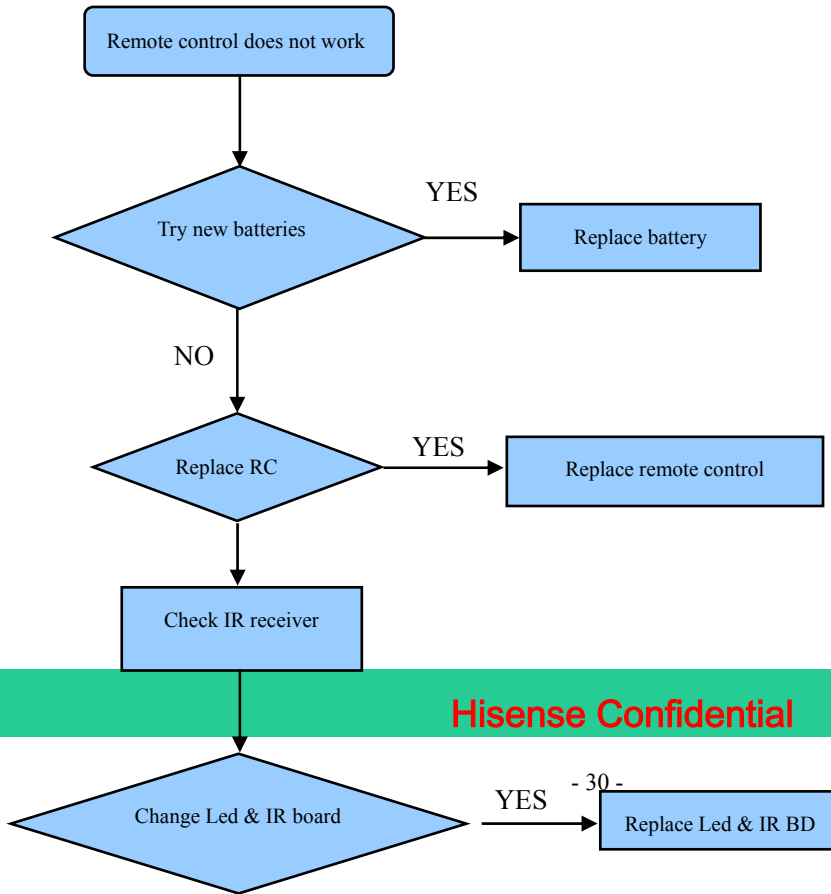
Click “Browse” button, find the upgrading program file, and select it. Press “Upgrade” button and start upgrading.

The following interface appears on the screen, indicating upgrading successfully.

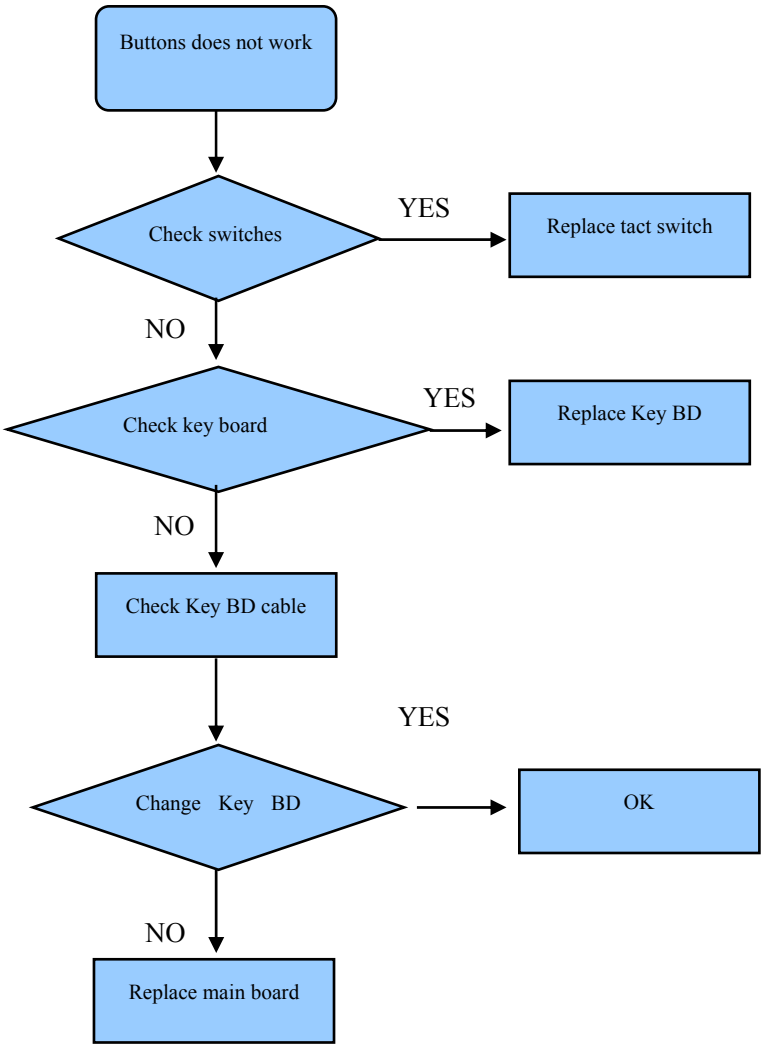


7. Troubleshooting

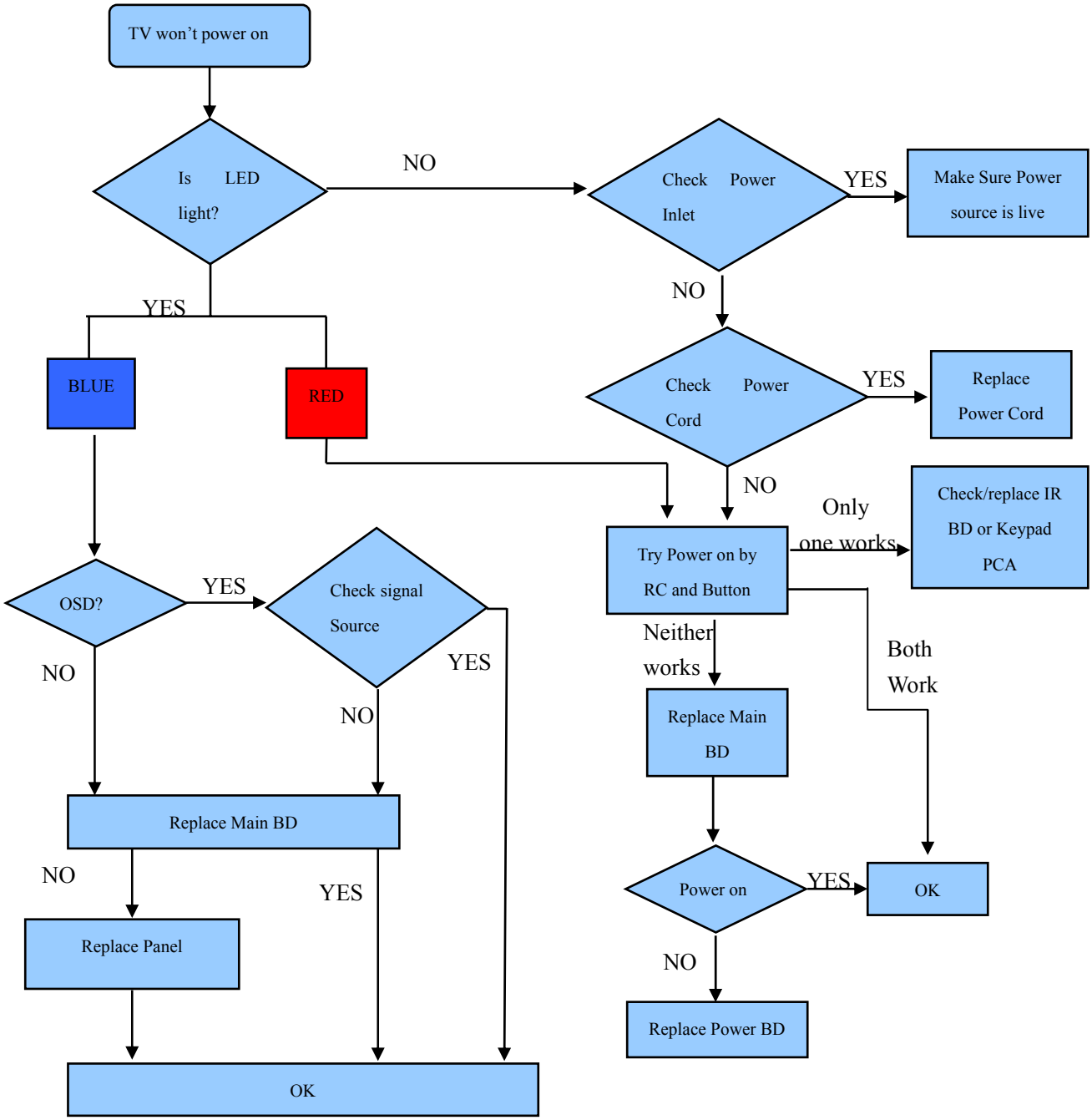
7.1 Troubleshooting for Remote Control



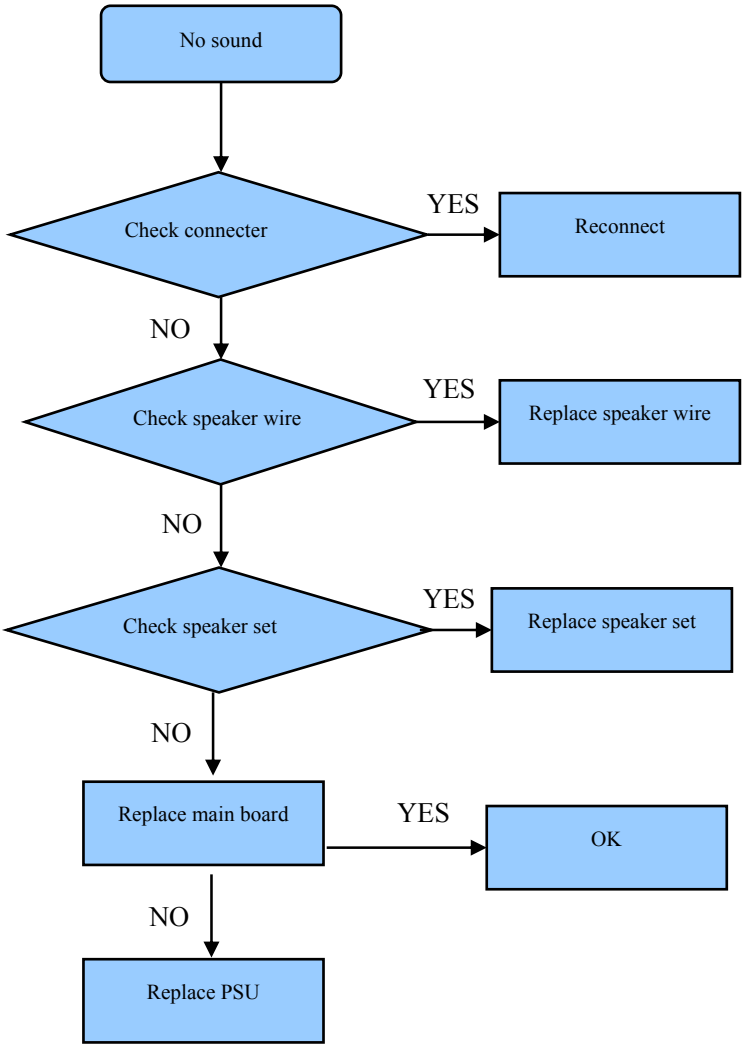
7.2 Troubleshooting for Function Key



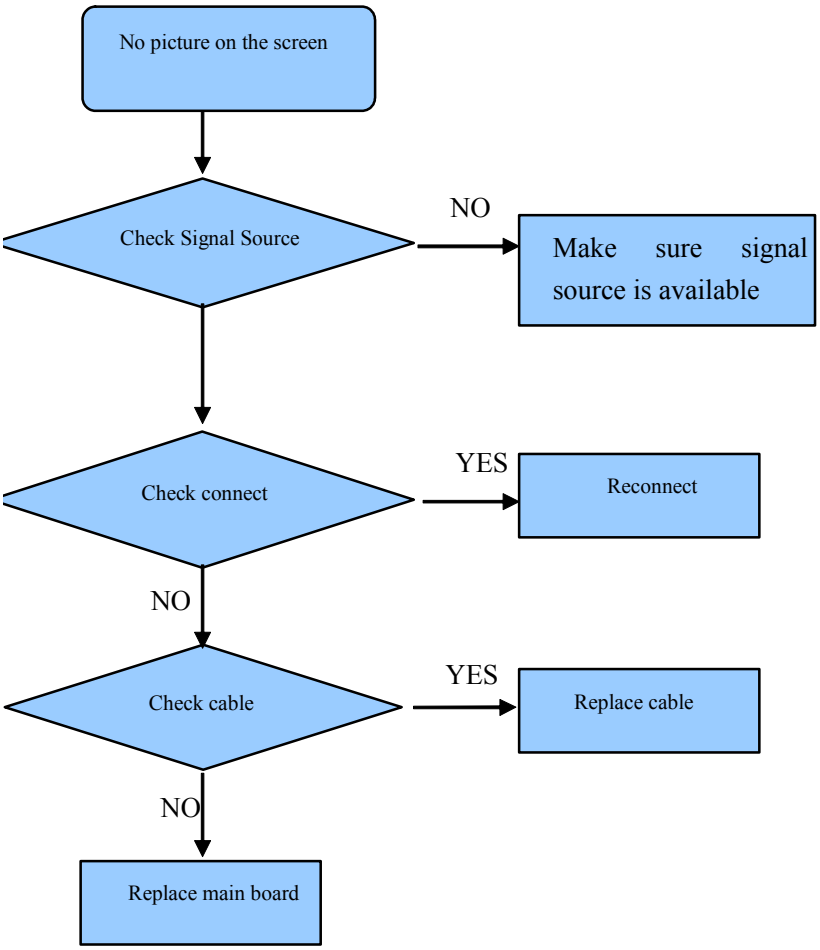
7.3 TV won't Power On



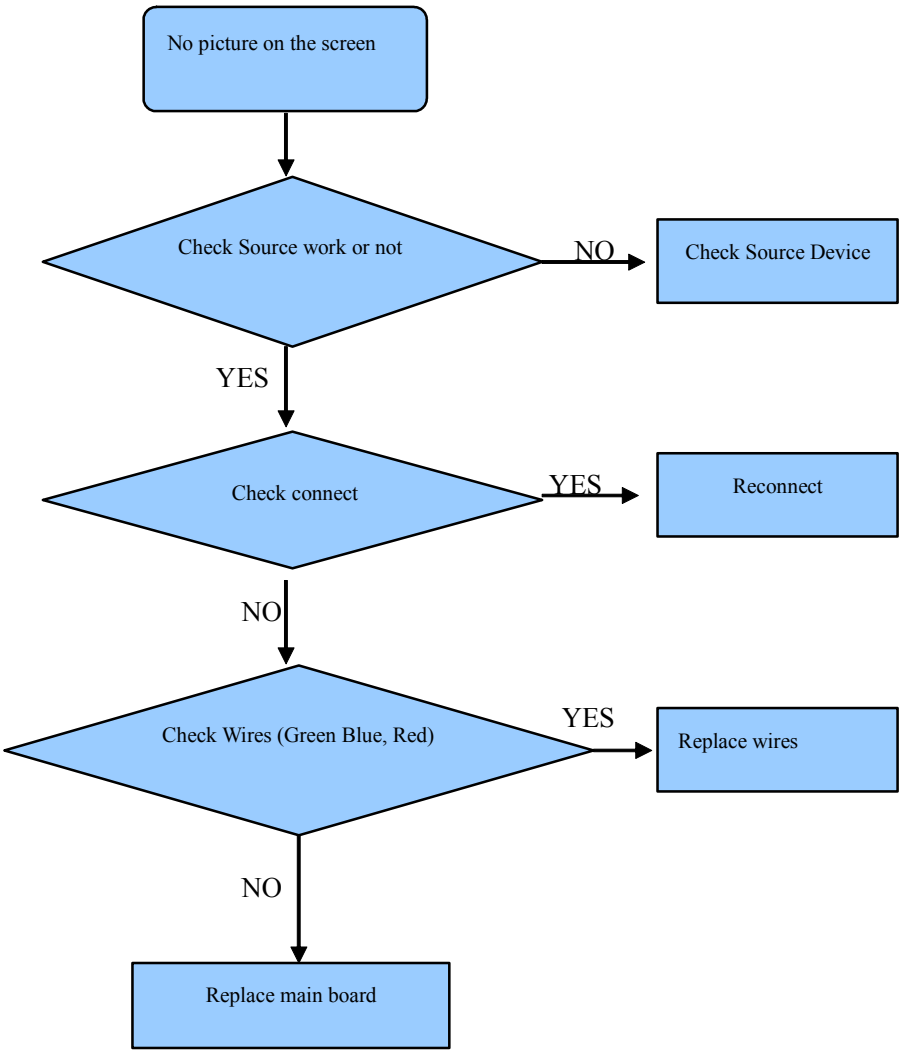
7.4 Troubleshooting for Audio



7.5 Troubleshooting for TV/VGA/HDMI input



7.6 Troubleshooting for YPbPr input



7.7 Troubleshooting for Video/S-Video input